



Environmental & Engineering Services Nationwide



ENVIRONMENTAL SERVICES

BUILDING ARCHITECTURE,
ENGINEERING & SCIENCE

INDUSTRIAL HYGIENE SERVICES

BROWNFIELDS & ECONOMIC
INCENTIVES CONSULTING

PHASE II ENVIRONMENTAL SITE ASSESSMENT

4701 White Lake Road | Clarkston, Michigan
PM Project Number 01-8464-0-0002

Prepared for:

Alex's White Lake Investment LLC
6410 Grange Hall Road
Holly, Michigan 48442

Prepared by:

PM Environmental, Inc.
4080 West Eleven Mile Road
Berkley, Michigan 48072

Know Your Risk.
Take Control.
Work with the Experts.



Corporate Headquarters
Lansing, Michigan
3340 Ranger Road, Lansing, MI 48906
f: 877.884.6775
t: 517.321.3331

Michigan Locations

Berkley	Bay City
Grand Rapids	Detroit
Chesterfield	Lansing

March 14, 2018

Mr. Steve Nannoshi
Alex's White Lake Investment LLC
6410 Grange Hall Road
Holly, Michigan 48442

**Re: Phase II Environmental Site Assessment of the Vacant Land
Located at 4701 White Lake Road, Clarkston, Michigan
PM Environmental, Inc. Project No. 01-8464-0-0002**

Dear Mr. Nannoshi:

PM Environmental, Inc. (PM) completed a Phase II Environmental Site Assessment (ESA) of the vacant land located at 4701 White Lake Road, Clarkston, Oakland County, Michigan (hereafter referred to as the "subject property") in general accordance with ASTM Standard Practice E 1527-13 to assess the offsite Recognized Environmental Conditions (RECs) identified in PM's Phase I ESA dated May 26, 2017. This Phase II ESA Report summarizes the activities conducted by PM in February 2018, the geology encountered, and the sample analytical results.

**THIS PHASE II ESA REPORT WAS PERFORMED FOR THE EXCLUSIVE USE OF ALEX'S
WHITE LAKE INVESTMENT LLC, THE STATE BANK, AND OAKLAND COUNTY, EACH OF
WHOM MAY RELY ON THE REPORT'S CONTENTS.**

INTRODUCTION AND BACKGROUND

The subject property consists of one parcel containing 3.16 acres of land located on the west side of White Lake Road, south and east of White Lake Court, and north of Andersonville Road in Clarkston, Michigan (Figure 1). The subject property is vacant land with no current structures and business operations (Figure 2).

Standard and other historical sources were able to document that the subject property has consisted of vacant land since at least 1940. However, review of aerial photographs documents disturbed soil was present on the property between the 1960s and 1990s. Gravel and/or sand was reportedly removed to level the property, but PM did not observe any evidence of filling at the property through review of aerial photographs or other historical sources. The property was used for storage of several semi-truck trailers and other equipment likely associated with the gravel and sand pits at the north and west adjoining properties from between 1967 and 1974 until between 1974 and 1980. The property was utilized for storage/parking of vehicles and other equipment again in at least 1997, which was likely associated with the north and west adjoining properties that had the same owner as the subject property at that time.

PREVIOUS SITE INVESTIGATIONS

No previous site investigations were identified by PM for the subject property. Previous reports may exist for the subject property, however, none were provided to PM by the client or owner of the property, and none were available with the appropriate state regulatory agencies.

MAY 2017 PHASE I ESA

PM completed a Phase I ESA for the subject property dated May 26, 2017, in conformance with the scope and limitations of ASTM Practice E 1527-13 (i.e., the 'ASTM Standard').

The following adjoining and/or nearby RECs were identified:

- The north adjoining property and west adjoining property (4601-4633 White Lake Court) were utilized as sand and gravel pits between the 1960s and 1970s, and the excavated areas were filled by 1980. Fill materials used to backfill the gravel and sand mine pit are unknown. The potential exists that fill materials originated from a contaminated source, and negatively impacted the subsurface. Based on the close proximity to the subject property (i.e. between 100 and 200 feet across White Lake Court), regional sand geology and topographic gradient to the southeast, toward the subject property, the potential exists that contaminants from the potentially contaminated fill material have migrated onto the subject property.
- The west adjoining property, identified as 4571-4575 White Lake Court, was occupied by a construction company with heavy machinery service operations from at least 1990 until 2010. Based on the long term heavy machinery service operations (over 20 years), close proximity to the subject property (i.e. approximately 200 feet across White Lake Court), regional sand geology and topographic gradient to the southeast, toward the subject property, the potential exists a release has occurred and migrated onto the subject property.

No onsite RECs were identified.

CURRENT PHASE II ESA

Prior to the commencement of field activities, MISSDIG, a utility locating service, was contacted to locate utilities on or adjacent to the subject property. Utilities were marked by the respective utility companies where they entered or were located adjacent to the subject property.

On February 26, 2018, PM completed subsurface investigation activities at the subject property that consisted of advancing four soil borings (SB-1 through SB-4), installing two temporary monitoring wells (TMW-3 and TMW-4), and collecting seven soil samples and two groundwater samples for submittal to Brighton Analytical, LLC. (Brighton) in Brighton, Michigan, for laboratory analysis of volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PNAs). The soil boring/temporary monitoring well locations are depicted on Figures 3 and 4.

The soil borings were advanced to the desired depth using either a hand auger equipped with a stainless steel bucket and/or a Geoprobe® model 6610DT drill rig. Soil sampling was performed for soil classification, verification of subsurface geologic conditions, and for investigating the potential and/or extent of soil and/or groundwater contamination at the subject property. Soil samples were generally collected on a continuous basis using a stainless steel bucket in the case of the hand auger or a 5-foot long macro-core sampler in the case of the Geoprobe® drill rig.

During drilling operations, the drilling equipment was cleaned to minimize the possibility of cross contamination. These procedures included cleaning equipment with a phosphate free solution (i.e., Alkanox®) and rinsing with distilled water after each sample collection. Drilling and sampling equipment was also cleaned in this manner prior to initiating field activities.

Soil collected from 1-foot sample intervals was screened using a photoionization detector (PID) to determine if VOCs were present. Soil from specific depths was placed in plastic bags and allowed to volatilize. The headspace within each bag was then monitored with the PID, which is able to detect trace levels of organic compounds in the air space within the plastic bag. Soil samples were collected from the soil boring based upon the highest PID reading, visual/olfactory evidence, a change in geology, surficial soil, and/or directly above saturated soil.

Soil samples for VOC analysis were preserved with methanol, in accordance with United States Environmental Protection Agency (USEPA) method 5035.

Temporary monitoring wells (TMW-3 and TMW-4) were installed for groundwater sample collection. At the monitoring well location, a new well assembly, consisting of a 5-foot 0.010-inch slot, schedule 40, poly-vinyl chloride (PVC) screen and PVC casing was lowered into the borehole to intersect the water table. After the screen for the well was set to the desired depth, an artificial sand pack or natural sands were allowed to collapse around the well screen. The groundwater samples collected from the temporary monitoring wells were generally collected using low flow sampling methods and protocols using a peristaltic pump equipped with new, chemically inert, 3/8-inch diameter polyethylene and silicon tubing. The sample was collected directly from the tubing into preserved vials/bottles or within unpreserved bottles/jars, as applicable for the analyte and/or method.

Soil and groundwater samples were placed in appropriately labeled containers with Teflon lined lids and/or sanitized glass jars, placed in an ice packed cooler, and transported under chain of custody procedures for laboratory analysis within applicable holding times to Brighton.

Upon completion of the investigation, the soil borings were abandoned by removing the temporary monitoring well materials, placing the soil cuttings back into the borehole, filling the void with bentonite chips, hydrating the chips, resurfacing and returning the area to its pre-drilling condition.

The table below summarizes the Phase II ESA activities including total boring depth, sample depth and analysis, objective of the soil borings, and sample justification:

Description of the Soil Boring/Temporary Monitoring Well Locations

Location (feet bgs)	Sample/Screen Depth [DTW] (feet bgs)	Analysis	Objectives	Sample Selection (justification)
SB-1 (16.0)	Soil: 2.0-3.0 and 15.0-16.0	VOCs and PNAs	Assess north and west adjoining former landfilling activities	Soil: Samples were collected from the clayey sand/clay interface and from a deeper interval where concrete debris was encountered. Groundwater: Not encountered.

Location (feet bgs)	Sample/Screen Depth [DTW] (feet bgs)	Analysis	Objectives	Sample Selection (justification)
SB-2 (24.0)	Soil: 9.0-10.0 and 23.0-24.0	VOCs and PNAs	Assess north and west adjoining former landfilling activities	Soil: Based on the lack of field evidence of impact, samples were collected from an intermediate interval at a change in geology and from the end of the boring. Groundwater: Not encountered.
SB/TMW-3 (16.0)	Soil: 13.0-14.0	VOCs and PNAs	Assess north and west adjoining former landfilling operations and west adjoining former heavy machinery service operations	Soil: A sample was collected from above the saturated zone where concrete debris was encountered. Groundwater: Sampled.
	Groundwater: 10.50-15.50 [14.05]			
SB/TMW-4 (24.0)	Soil: 5.0-6.0 and 18.0-19.0	VOCs and PNAs	Assess west adjoining former heavy machinery service operations	Soil: Samples were collected from an interval where concrete debris was encountered, which was the interval with the highest PID reading (2.0 ppm) and a deeper interval above the saturated zone. Groundwater: Sampled.
	Groundwater: 19.0-24.0 [20.50]			

bgs - below ground surface DTW – depth to water PID – photoionization detector ppm – parts per million

GEOLOGY/HYDROGEOLOGY

Based on review of the soil boring logs, the soil stratigraphy at the subject property generally consists of clayey sand and/or sand to a depth of at least 24.0 feet below ground surface (bgs), the maximum depth explored. Clay was encountered at SB-1 and SB-3 at depths between 2.0 and 3.5 feet bgs. Groundwater was encountered in two of the soil borings advanced at the subject property (SB/TMW-3 and SB/TMW-4) at depths between 14.5 and 20.0 feet bgs.

Soil boring/temporary monitoring well logs depicting the soil stratigraphy, sample depths, and PID readings are included in Appendix A.

ANALYTICAL RESULTS

The analytical results for the soil and groundwater samples collected by PM in February 2018 were compared with the MDEQ Cleanup Criteria and Screening Levels as presented Cleanup Criteria Requirements for Response Activity (R 299.1 – R 299.50)" dated December 30, 2013, entitled "Cleanup Criteria Requirements for Response Activity", in accordance with Section 20120a(1) using the Residential and Nonresidential cleanup criteria. In addition, the analytical results were also compared to the MDEQ Media Specific Volatilization to Indoor Air Interim Action Screening Levels, (RIASLs, dated August 2017).

Figures 3 and 4 and Tables 1 and 2 summarize the soil and groundwater analytical results. Appendix B contains the complete laboratory analytical report.

Soil Analytical Results

PM's February 2018 soil analytical results are summarized on Figure 3 and in Table 1.

No concentrations of VOCs and PNAs were detected in any of the soil samples analyzed from the subject property above laboratory method detection limits (MDLs).

Groundwater Analytical Results

PM's February 2018 groundwater analytical results are summarized on Figure 4 and in Table 2.

A concentration of 1,2,3-trimethylbenzene was detected in the groundwater sample analyzed from TMW-4 above laboratory MDLs, but below the most restrictive Part 201 Residential cleanup criteria and RIAsLs. No concentrations of other VOCs were detected in either of the groundwater samples analyzed from the subject property above laboratory MDLs.

No concentrations of PNAs were detected in either of the groundwater samples analyzed from the subject property above laboratory MDLs.

CONCLUSIONS AND RECOMMENDATIONS

On February 26, 2018, PM completed subsurface investigation activities at the subject property that consisted of advancing four soil borings (SB-1 through SB-4), installing two temporary monitoring wells (TMW-3 and TMW-4), and collecting seven soil samples and two groundwater samples to assess the RECs identified in PM's May 2017 Phase I ESA.

No concentrations of VOCs and PNAs were detected in any of the soil and groundwater samples analyzed from the subject property above laboratory MDLs and/or the most restrictive Part 201 Residential cleanup criteria and RIAsLs.

Based on the absence of target analytes detected above the most restrictive Part 201 Residential cleanup criteria in the soil and groundwater samples analyzed from the subject property, the subject property would not be considered a "facility" as defined in Section 20101(1)(r) of Part 201, of P.A. 451 of 1994, as amended. In addition, per Section 20126(4)(c) of Michigan Part 201, an owner or operator of a property onto which contamination has migrated is not a liable party and as such, has no obligation for assessment or cleanup response activities.

The offsite RECs associated with the subject property identified in PM's May 2017 Phase I ESA have been adequately assessed and no further investigation is warranted.

If you have any questions related to this report, contact our office at (248) 336-9988.

Sincerely,

PM Environmental, Inc.
REPORT PREPARED BY:



Aaron Snow
Staff Scientist

REPORT REVIEWED BY:



Jennifer Ritchie, CPG
Regional Manager

FIGURES

- Figure 1: Property Vicinity Map
- Figure 2: Generalized Diagram of the Subject Property and Adjoining Properties
- Figure 3: Soil Boring/Temporary Monitoring Well Location Map with Soil Analytical Results
- Figure 4: Soil Boring/Temporary Monitoring Well Location Map with Groundwater Analytical Results

TABLES

- Table 1: Summary of Soil Analytical Results: VOCs and PNAs
- Table 2: Summary of Groundwater Analytical Results: VOCs and PNAs

APPENDICES

- Appendix A: Soil Boring/Temporary Monitoring Well Logs
- Appendix B: Laboratory Analytical Report

Figures





OAKLAND COUNTY



MICHIGAN QUADRANGLE LOCATION

SCALE 1:24,000
1 MILE 1/2 MILE 0 1 MILE

SCALE 1:24,000

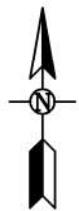
1/2 MILE

0

1 MILE

FIGURE 1
PROPERTY VICINITY MAP
USGS, 7.5 MINUTE SERIES

CLARKSTON, MI QUADRANGLE, 1968. PHOTO REVISED 1983.



**Environmental
& Engineering
Services**

PROJ:
VACANT LAND
4701 WHITE LAKE ROAD
CLARKSTON, MI

THIS IS NOT A LEGAL SURVEY

VERIFY SCALE

0 [REDACTED] 2,000'

IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRN BY:

CS

DATE: 3/9/2018

CHKD BY:

AS

SCALE: 1" = 2,000'

FILE NAME:

01-8464-0-002F01R00

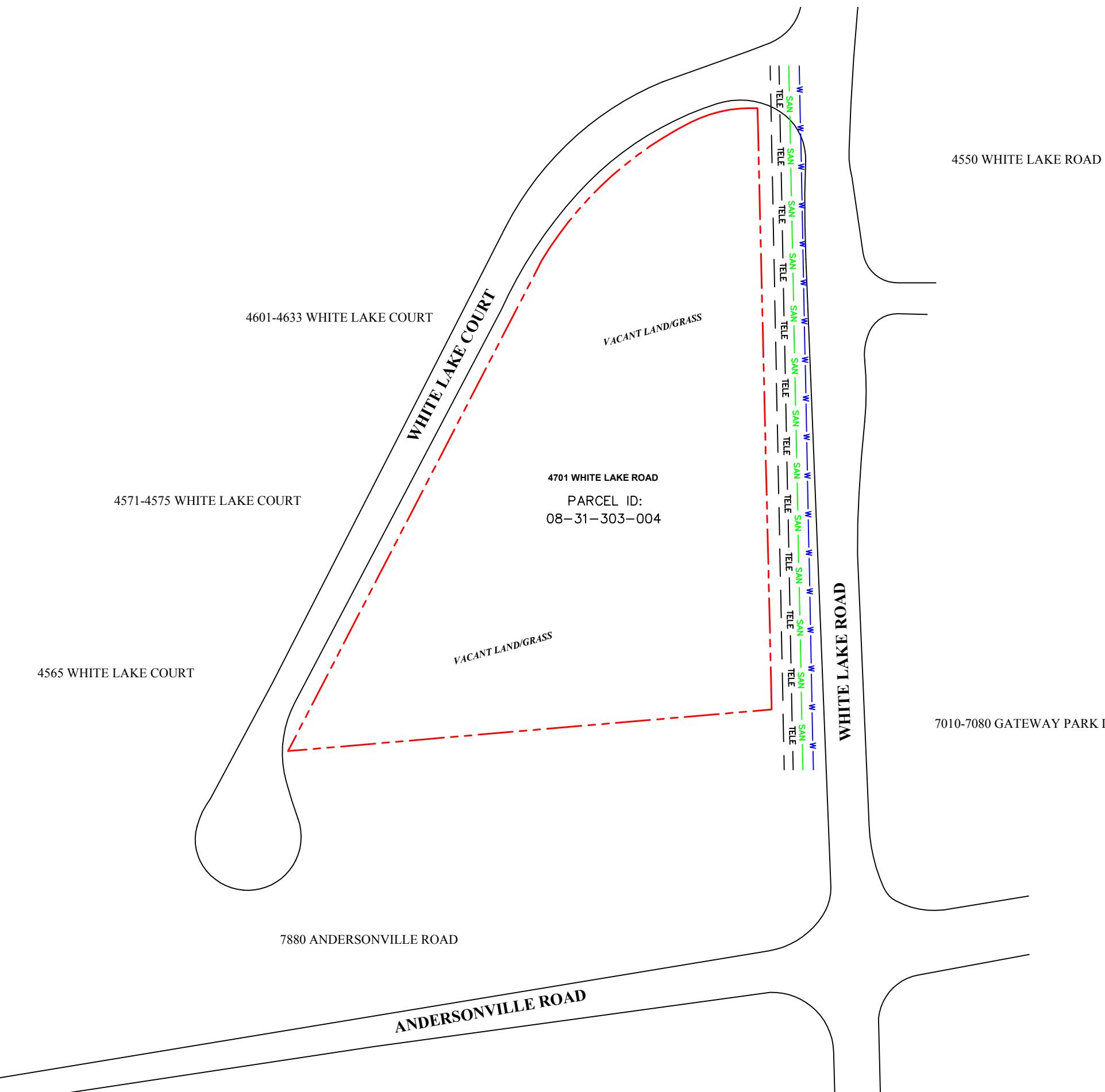
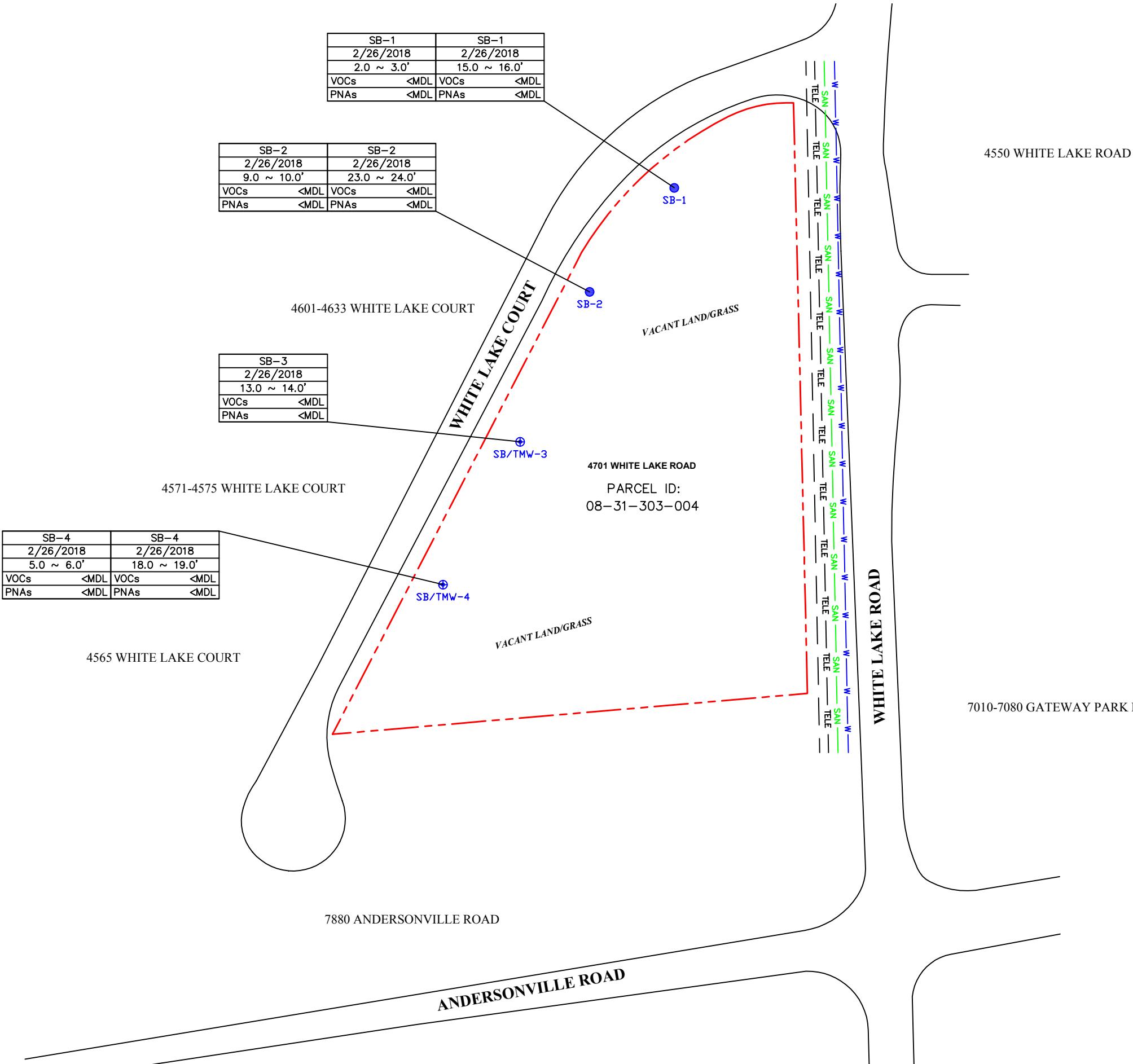


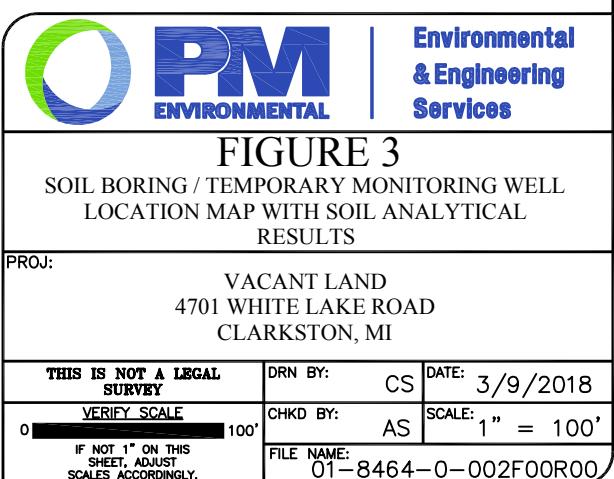
FIGURE 2		
GENERALIZED DIAGRAM OF THE SUBJECT PROPERTY AND ADJOINING PROPERTIES		
PROJ: VACANT LAND 4701 WHITE LAKE ROAD CLARKSTON, MI		
THIS IS NOT A LEGAL SURVEY	DRN BY: CS	DATE: 3/9/2018
VERIFY SCALE	CHKD BY: AS	SCALE: 1" = 100'
0 [redacted] 100' IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.		FILE NAME: 01-8464-0-002FOOR00

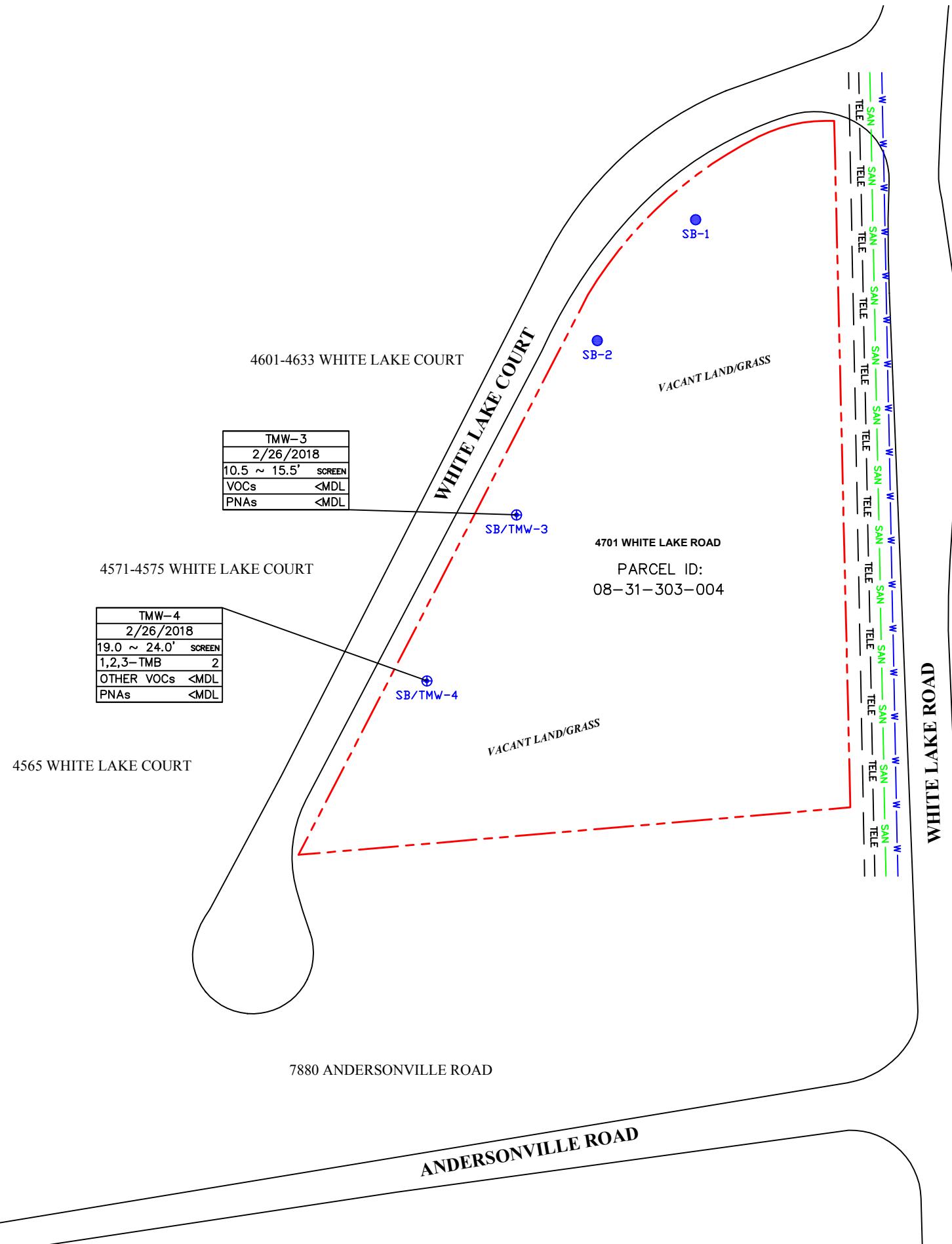


LEGEND:

	SUBJECT PROPERTY
	PETROLEUM PIPELINE
	BURIED PHONE LINE
	SANITARY SEWER
	WATER
	SOIL BORING
	SOIL BORING / TEMPORARY MONITORING WELL
VOCs	VOLATILE ORGANIC COMPOUNDS
PNAs	POLYNUCLEAR AROMATIC COMPOUNDS
MDL	METHOD DETECTION LIMIT
UNITS	µg/kg (UNLESS NOTED)

NOTES: REFER TO TABLES FOR SPECIFIC COMPOUNDS ANALYZED





4550 WHITE LAKE ROAD

LEGEND:

	SUBJECT PROPERTY
	PETROLEUM PIPELINE
	BURIED PHONE LINE
	SANITARY SEWER
	WATER
	SOIL BORING
	SOIL BORING / TEMPORARY MONITORING WELL
	1,2,3-TMB VOCs PNAs MDL UNITS
	1,2,3-TRIMETHYLBENZENE VOLATILE ORGANIC COMPOUNDS POLYNUCLEAR AROMATIC COMPOUNDS METHOD DETECTION LIMIT µg/L

NOTES: REFER TO TABLES FOR SPECIFIC COMPOUNDS ANALYZED

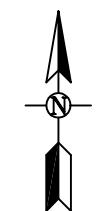


FIGURE 4		
SOIL BORING / TEMPORARY MONITORING WELL LOCATION MAP WITH GROUNDWATER ANALYTICAL RESULTS		
PROJ: VACANT LAND 4701 WHITE LAKE ROAD CLARKSTON, MI		
THIS IS NOT A LEGAL SURVEY	DRN BY: CS	DATE: 3/9/2018
VERIFY SCALE 0 [REDACTED] 100' IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	CHKD BY: AS	SCALE: 1" = 100'
FILE NAME: 01-8464-0-002FOOR00		

Tables



TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS: VOCs AND PNAs
4701 WHITE LAKE ROAD, CLARKSTON, MICHIGAN
PM PROJECT # 01-8464-0-0002

VOLATILE ORGANIC COMPOUNDS (VOCs) AND POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)			VOCs	PNAs
(µg/Kg)				
Chemical Abstract Service Number (CAS#)			Various	Various
Sample ID	Sample Date	Sample Depth (feet bgs)	VOCs	PNAs
SB-1	02/26/18	2.0-3.0	<MDL	<MDL
SB-1	02/26/18	15.0-16.0	<MDL	<MDL
SB-2	02/26/18	9.0-10.0	<MDL	<MDL
SB-2	02/26/18	23.0-24.0	<MDL	<MDL
SB-3	02/26/18	13.0-14.0	<MDL	<MDL
SB-4	02/26/18	5.0-6.0	<MDL	<MDL
SB-4	02/26/18	18.0-19.0	<MDL	<MDL
Cleanup Criteria Requirements for Response Activity (R 299.1 - R 299.50) Generic Soil Cleanup Criteria Tables 2 and 3: Residential and Non-Residential Part 201 Generic Cleanup Criteria and Screening Levels/Part 213 Risk-Based Screening Levels, December 30, 2013 MDEQ Media-Specific Volatilization to Indoor Air Interim Action Screening Levels, August 2017				
Residential (µg/Kg)				
Drinking Water Protection (Res DWP)			Various	Various
Groundwater Surface Water Interface Protection (GSIP)			Various	Various
Soil Volatilization to Indoor Air Inhalation (Res SVII)			Various	Various
Ambient Air Infinite Source Volatile Soil Inhalation (Res VSI)			Various	Various
Ambient Air Finite VSI for 5 Meter Source Thickness			Various	Various
Ambient Air Finite VSI for 2 Meter Source Thickness			Various	Various
Ambient Air Particulate Soil Inhalation (Res PSI)			Various	Various
Direct Contact (Res DC)			Various	Various
Nonresidential (µg/Kg)				
Drinking Water Protection (Nonres DWP)			Various	Various
Soil Volatilization to Indoor Air Inhalation (Nonres SVII)			Various	Various
Ambient Air Infinite Source Volatile Soil Inhalation (Nonres VSI)			Various	Various
Ambient Air Finite VSI for 5 Meter Source Thickness			Various	Various
Ambient Air Finite VSI for 2 Meter Source Thickness			Various	Various
Ambient Air Particulate Soil Inhalation (Nonres PSI)			Various	Various
Direct Contact (Nonres DC)			Various	Various
Screening Levels (µg/Kg)				
Soil Saturation Concentration Screening Levels (Csat)			Various	Various
Residential Soil Recommended Interim Action Screening Level (RIASL)			Various	NL
Nonresidential Soil Recommended Interim Action Screening Level (RIASL)			Various	NL

Applicable Criterion/RBSL Exceeded

BOLD Value Exceeds Applicable Criterion/RBSL

Value Exceeds Applicable Screening Level

underline Applicable Screening Level Exceeded

ug/Kg Micrograms per Kilogram

bgs Below Ground Surface (feet)

NA Not Applicable

NL Not Listed

ID Insufficient Data

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS: VOCs AND PNAs
4701 WHITE LAKE ROAD, CLARKSTON, MICHIGAN
PM PROJECT # 01-8464-0-0002

VOLATILE ORGANIC COMPOUNDS (VOCs) AND POLYNUCLEAR AROMATIC HYDROCARBONS (PNAs)				1,2,3-Trimethylbenzene	Other VOCs	PNAs
(µg/L)						
Chemical Abstract Service Number (CAS#)				526738	Various	Various
Sample ID	Sample Date	Screen Depth (bgs)	Depth to Groundwater (bgs)	VOCs	PNAs	
TMW-3	02/26/18	10.50-15.50	14.05	<1	<MDL	<MDL
TMW-4	02/26/18	19.00-24.00	20.50	2	<MDL	<MDL
Cleanup Criteria Requirements for Response Activity (R 299.1 - R 299.50) Generic Groundwater Cleanup Criteria Table 1: Residential and Non-Residential Part 201 Generic Cleanup Criteria and Screening Levels/Part 213 Risk-Based Screening Levels, December 30, 2013 MDEQ Media-Specific Volatilization to Indoor Air Interim Action Screening Levels, August 2017 MDHHS Recommended Action and Trigger Levels for Vapor Intrusion Sites, March 9, 2017						
Residential/Nonresidential (µg/L)						
Residential Drinking Water (Res DW)				63 (E)	Various	Various
Residential Health Based Drinking Water Values				NL	Various	Various
Nonresidential Drinking Water (Nonres DW)				63 (E)	Various	Various
Nonresidential Health Based Drinking Water Values				NL	Various	Various
Groundwater Surface Water Interface (GSI)				17	Various	Various
Residential Groundwater Volatilization to Indoor Air Inhalation (Res GVII) ¹				56,000 (S)	Various	Various
Nonresidential Groundwater Volatilization to Indoor Air Inhalation (Nonres GVII) ¹				56,000 (S)	Various	Various
Volatilization to Indoor Air Screening Levels (µg/L)						
Residential Shallow Groundwater RIASL				43	Various	Various
Nonresidential Shallow Groundwater RIASL				71	Various	Various
Residential Groundwater RIASL				800	Various	Various
Residential Groundwater TSRIASL				2,400	Various	Various
Nonresidential Groundwater RIASL				3,900	Various	Various
Nonresidential Groundwater RIASL ₁₂				7,900	Various	Various
Nonresidential Groundwater TSRIASL ₁₂				72,000	Various	Various
Water Solubility				56,000	Various	Various
Flammability and Explosivity Screening Level				56,000 (S)	Various	Various
Residential/Commercial MDHHS Action and Trigger Levels						
Residential Action Level				170	<MDL	<MDL
Residential Trigger Level				520	<MDL	<MDL
Commercial Action Level				730	<MDL	<MDL
Commercial Trigger Level				2,200	<MDL	<MDL

BOLD
underline

Applicable Criteria/RBSL Exceeded

Value Exceeds Applicable Criteria

Value Exceeds Applicable Screening Level

Applicable Screening Level Exceeded

bgs Below Ground Surface (feet)

<MDL Not detected at levels above the laboratory Method Detection Limit (MDL) or Minimum Quantitative Level (MQL)

¹ Tier 1 GVII Criteria based on 3 meter (or greater) groundwater depth

NA Not Applicable

NL Not Listed

NLL Not Likely to Leach

NLV Not Likely to Volatilize

ID Insufficient Data

RIASL Recommended Interim Action Screening Levels

TSRIASL Time Sensitive Recommended Interim Action Screening Levels

RIASL₁₂ Nonresidential Recommended Interim Action Screening Levels appropriate for exposures less than 12 hours

TSRIASL₁₂ Time Sensitive Recommended Interim Action Screening Levels appropriate for exposures less than 12 hours for structures not formerly residential homes.

Appendix A





Boring Log .

Project No.: 01-8464-0-002

Boring No.: SB-1

Project Name: VACANT LAND

Date Drilled: 2/26/2018

Facility ID#:

Drill Rig: 6610

Logged By: BF

Sampling Method: MC-5

SUBSURFACE PROFILE			SAMPLE		
Depth (ft.)	Boring Profile	Description and Comments	Sample #	Blow Counts	PID (ppm)
0		Ground Surface GRASS/TOPSOIL SC- (Medium) CLAYEY SAND (moist) Brown, fine		-	0.0
2				-	0.0
4		CL- (Medium) CLAY (moist) Brown	SS-1 2.0 ~ 3.0'	-	0.0
6		SP- (Medium) SAND (moist) Brown, fine, some gravel/concrete debris @ 13' bgs.		-	0.0
8				-	0.0
10				-	0.0
12				-	0.0
14				-	0.0
16		REFUSAL @ 16' BGS.	SS-2 15.0 ~ 16.0'	-	0.0
					No Well Installed

Completion Notes: EOB @ 16' bgs. Hole filled with soil cuttings and bentonite.

1. The indicated stratification lines are approximate in situ.
The transitions between materials may be gradual.
 2. Boring backfilled with natural soils unless otherwise noted.



Project No.: 01-8464-0-002

Project Name: VACANT LAND

Facility ID#:

Logged By: BF

Boring Log .

Boring No.: SB-2

Date Drilled: 2/26/2018

Drill Rig: 6610

Sampling Method: MC-5

SUBSURFACE PROFILE		SAMPLE			No Well Installed
Depth (ft.)	Boring Profile	Description and Comments	Sample #	Blow Counts	
0		Ground Surface GRASS/TOPSOIL SC- (Medium) CLAYEY SAND (moist) Dark Brown, fine			
2				-	0.0
4				-	0.0
6				-	0.0
8				-	0.0
10			SS-1 9.0 ~ 10.0'	-	0.0
12				-	0.0
14				-	0.0
16				-	0.0
18				-	0.0
20				-	0.0
22				-	0.0
24			SS-2 23.0 ~ 24.0'	-	0.0

Completion Notes: EOB @ 24' bgs. Hole filled with soil cuttings and bentonite.

1. The indicated stratification lines are approximate in situ. The transitions between materials may be gradual.
 2. Boring backfilled with natural soils unless otherwise noted.



Project No.: 01-8464-0-002

Project Name: VACANT LAND

Facility ID#:

Logged By: BF

Well Log .

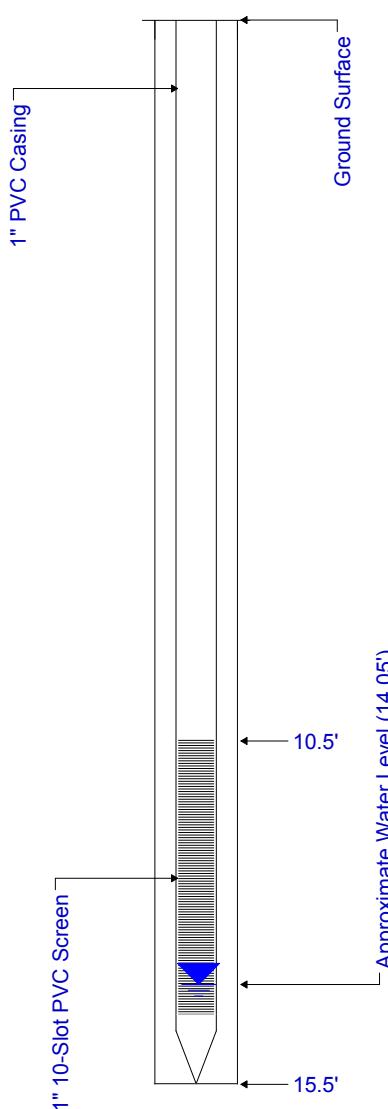
Well No.: SB/TMW-3

Date Drilled: 2/26/2018

Drill Rig: 6610

Sampling Method: MC-5

SUBSURFACE PROFILE		SAMPLE			Groundwater Well Completion Details
Depth (ft.)	Boring Profile	Sample #	Blow Counts	PID (ppm)	
0			-	0.0	
0	Ground Surface GRASS/TOPSOIL SP- (Loose) SAND (moist) Brown, fine, trace gravel		-	0.0	
2			-	0.0	
2	CL- (Stiff) CLAY (moist) Brown		-	0.0	
4			-	0.0	
4	SP- (Loose) SAND (moist) Brown, trace gravel, concrete debris @ 10' bgs.		-	0.0	
6			-	0.0	
8			-	0.0	
10			-	0.0	
12			-	0.0	
14		SS-1 13.0 ~ 14.0'	-	0.0	
14	SP- (Loose) SAND (saturated) Brown, trace gravel		-	0.0	
16			-	0.0	



Completion Notes: EOB @ 16' bgs. Hole filled with soil cuttings and bentonite.

1. The indicated stratification lines are approximate in situ.
The transitions between materials may be gradual.
2. Boring backfilled with natural soils unless otherwise noted



Project No.: 01-8464-0-002

Project Name: VACANT LAND

Facility ID#:

Logged By: BF

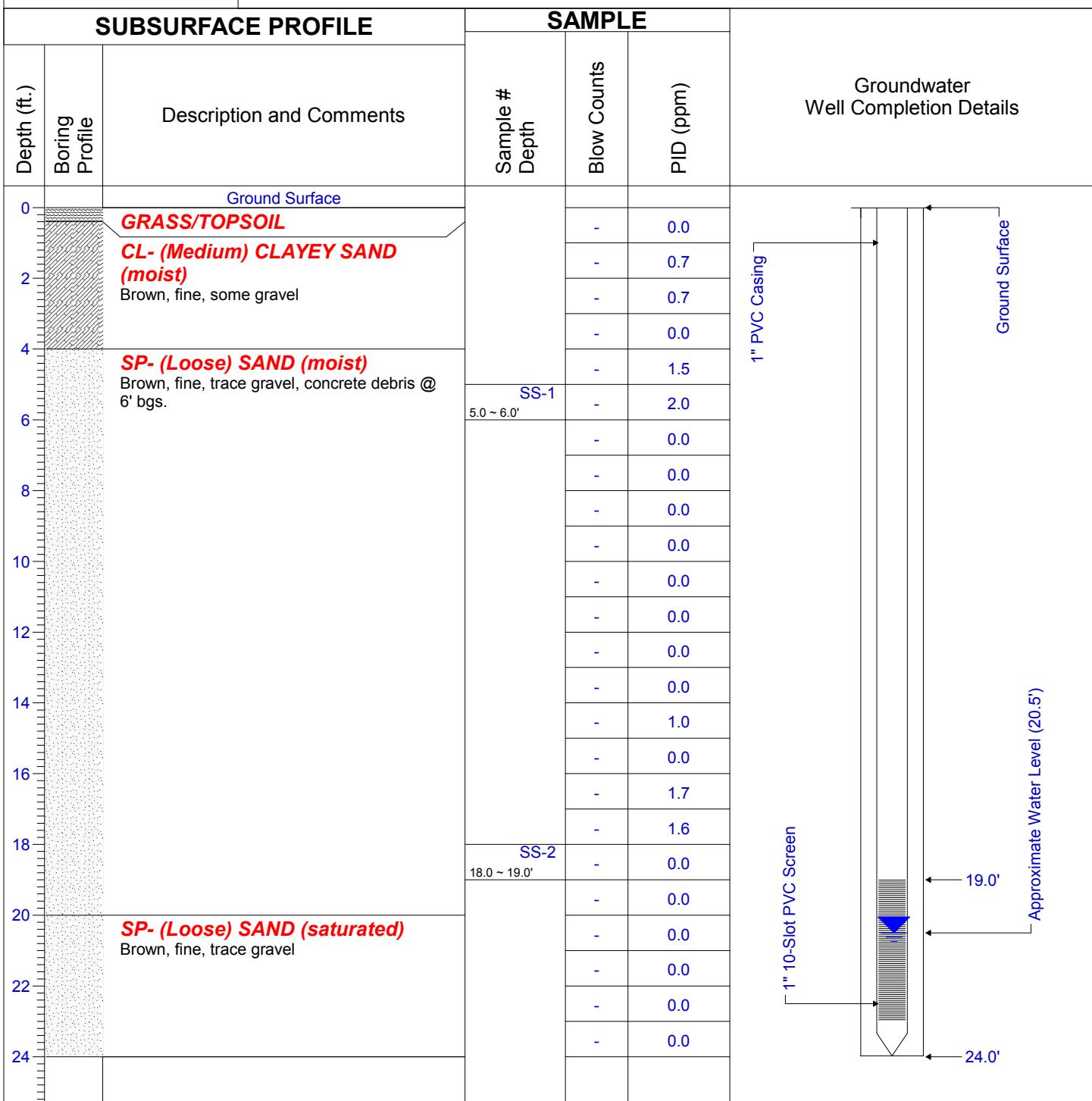
Well Log .

Well No.: SB/TMW-4

Date Drilled: 2/26/2018

Drill Rig: 6610

Sampling Method: MC-5



Completion Notes: EOB @ 24' bgs. Hole filled with soil cuttings and bentonite.

- The indicated stratification lines are approximate in situ.
The transitions between materials may be gradual.
- Boring backfilled with natural soils unless otherwise noted

Appendix B





2105 Pless Drive Brighton, Michigan 48114 Phone (810)229-7575 Fax (810)229-8650 E-mail bai-brighton@sbcglobal.net

March 02, 2018

PM Environmental, Inc.
4080 W. 11 Mile Rd.
Berkley, MI 48072

Subject: Vacant Land
01-8464-0-0002

Dear Mr. Snow :

Thank you for making Brighton Analytical, L.L.C. your laboratory of choice. Attached are the results for the samples submitted on 02/27/2018 for the above mentioned project. NELAP/TNI Accredited Analysis and MDEQ Drinking Water Certified Analysis will be identified in their respective reporting formats. Hard copies can be supplied at your request for a fee of \$20.00 per copy.

The invoice for this project will be emailed separately. If you have any questions concerning the data or invoice, please don't hesitate to contact our office. We welcome your comments and suggestions to improve our quality systems. Please reference Brighton Analytical, L.L.C. Project ID 49425 when calling or emailing. We thank you for this opportunity to partner with you on this project and hope to work with you again in the future.

Sincerely,
Brighton Analytical, L.L.C.



Brighton Analytical LLC
 2105 Pless Drive
 Brighton, Michigan 48114
 Phone: (810)229-7575 (810)229-8650
 e-mail: bai-brighton@sbcglobal.net
 MDNRE Certified #9404
 NELAC Accredited #176507

Sample Date: 2/26/2018 To: PM Environmental, Inc.
 Submit Date: 2/27/2018 4080 W. 11 Mile Rd.
 Report Date: 3/2/2018 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01089**

Project Number: **01-8464-0-0002**

Sample ID: **SB-1 2-3**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
PNA Analysis						
Acenaphthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Acenaphthylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(b)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(g,h,i)perylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(k)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Chrysene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Dibenzo(a,h)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluorene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Indeno(1,2,3-cd)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
2-Methylnaphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Naphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Phenanthrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
PNA solid GC/MS (extraction)	Extracted			3510C/3545	MB	02/28/2018
Volatile Analysis(Methanol Preserved)						
Acetone	<750	ug/Kg	750	SW846 8260C	RG	02/28/2018
Acrylonitrile	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
Benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromodichloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromoform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromomethane(Methyl bromide)	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
2-Butanone (MEK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Carbon disulfide	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Carbon tetrachloride	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloroethane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Chloroform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloromethane(Methyl chloride)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
cis-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
cis-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Sample Date: 2/26/2018
 Submit Date: 2/27/2018
 Report Date: 3/2/2018

To: PM Environmental, Inc.
 4080 W. 11 Mile Rd.
 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01089**

Project Number: **01-8464-0-0002**

Sample ID: **SB-1 2-3**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst
------------	--------	-------	----	------------------	---------

Volatile Analysis(Methanol Preserved)

Cyclohexane	<500	ug/Kg	500	SW846 8260C	RG	02/28/2018
Dibromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dibromo-3-Chloropropane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2-Dibromoethane(Ethylene dibromide)	<20	ug/Kg	20	SW846 8260C	RG	02/28/2018
Dibromomethane(Methylene bromide)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,4-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Dichlorodifluoromethane	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
1,2-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Diethyl ether	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
Diisopropyl Ether(DIPE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Ethanol (Ethyl alcohol)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
Ethyl benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Ethyltertiary butylether(ETBE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
2-Hexanone(Methyl Butyl Ketone)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Isopropylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methyl iodide(Iodomethane)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methylene chloride	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
2-Methylnaphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
4-Methyl-2-pentanone(MIBK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Methyl(tert)butyl ether(MTBE)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Naphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
n-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
n-Propylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
p-Isopropyl Toluene(p-Cymene)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
sec-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Styrene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
tertiary Amylmethylether(TAME)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Tertiary Butyl Alcohol(TBA)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
tertiary Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,2,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,1,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Tetrachloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Brighton Analytical LLC
 2105 Pless Drive
 Brighton, Michigan 48114
 Phone: (810)229-7575 (810)229-8650
 e-mail: bai-brighton@sbcglobal.net
 MDNRE Certified #9404
 NELAC Accredited #176507

Sample Date:	2/26/2018	To:	PM Environmental, Inc.
Submit Date:	2/27/2018		4080 W. 11 Mile Rd.
Report Date:	3/2/2018		Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01089**

Project Number: **01-8464-0-0002**

Sample ID: **SB-1 2-3**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis(Methanol Preserved)						
Tetrahydrofuran(THF)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Toluene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,4-Dichloro-2-butene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,4-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2,3-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,1,2-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,1-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichlorofluoromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3,5-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,4-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Vinyl chloride	<40	ug/Kg	40	SW846 8260C	RG	02/28/2018
Xylenes	<150	ug/Kg	150	SW846 8260C	RG	02/28/2018
EPA Method 5035 Methanol Preserv	Extracted			EPA 5035	PME	02/26/2018
%Solid	92	%		ASTM D2216	GW	02/27/2018

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by



Date

3/2/2018

Sample Date: 2/26/2018 To: PM Environmental, Inc.
 Submit Date: 2/27/2018 4080 W. 11 Mile Rd.
 Report Date: 3/2/2018 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01090**

Project Number: **01-8464-0-0002**

Sample ID: **SB-1 15-16**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
PNA Analysis						
Acenaphthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Acenaphthylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(b)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(g,h,i)perylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(k)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Chrysene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Dibenzo(a,h)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluorene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Indeno(1,2,3-cd)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
2-Methylnaphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Naphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Phenanthrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
PNA solid GC/MS (extraction)	Extracted			3510C/3545	MB	02/28/2018
Volatile Analysis(Methanol Preserved)						
Acetone	<750	ug/Kg	750	SW846 8260C	RG	02/28/2018
Acrylonitrile	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
Benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromodichloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromoform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromomethane(Methyl bromide)	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
2-Butanone (MEK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Carbon disulfide	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Carbon tetrachloride	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloroethane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Chloroform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloromethane(Methyl chloride)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
cis-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
cis-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Sample Date: 2/26/2018
 Submit Date: 2/27/2018
 Report Date: 3/2/2018

To: PM Environmental, Inc.
 4080 W. 11 Mile Rd.
 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01090**

Project Number: **01-8464-0-0002**

Sample ID: **SB-1 15-16**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
------------	--------	-------	----	------------------	---------	---------------

Volatile Analysis(Methanol Preserved)

Cyclohexane	<500	ug/Kg	500	SW846 8260C	RG	02/28/2018
Dibromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dibromo-3-Chloropropane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2-Dibromoethane(Ethylene dibromide)	<20	ug/Kg	20	SW846 8260C	RG	02/28/2018
Dibromomethane(Methylene bromide)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,4-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Dichlorodifluoromethane	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
1,2-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Diethyl ether	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
Diisopropyl Ether(DIPE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Ethanol (Ethyl alcohol)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
Ethyl benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Ethyltertiary butylether(ETBE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
2-Hexanone(Methyl Butyl Ketone)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Isopropylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methyl iodide(Iodomethane)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methylene chloride	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
2-Methylnaphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
4-Methyl-2-pentanone(MIBK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Methyl(tert)butyl ether(MTBE)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Naphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
n-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
n-Propylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
p-Isopropyl Toluene(p-Cymene)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
sec-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Styrene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
tertiary Amylmethylether(TAME)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Tertiary Butyl Alcohol(TBA)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
tertiary Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,2,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,1,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Tetrachloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Brighton Analytical LLC
 2105 Pless Drive
 Brighton, Michigan 48114
 Phone: (810)229-7575 (810)229-8650
 e-mail: bai-brighton@sbcglobal.net
 MDNRE Certified #9404
 NELAC Accredited #176507

Sample Date:	2/26/2018	To:	PM Environmental, Inc.
Submit Date:	2/27/2018		4080 W. 11 Mile Rd.
Report Date:	3/2/2018		Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01090**

Project Number: **01-8464-0-0002**

Sample ID: **SB-1 15-16**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis(Methanol Preserved)						
Tetrahydrofuran(THF)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Toluene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,4-Dichloro-2-butene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2,4-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,1,1-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,2-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichlorofluoromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,4-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3,5-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Vinyl chloride	<40	ug/Kg	40	SW846 8260C	RG	02/28/2018
Xylenes	<150	ug/Kg	150	SW846 8260C	RG	02/28/2018
EPA Method 5035 Methanol Preserv	Extracted			EPA 5035	PME	02/26/2018
%Solid	92	%		ASTM D2216	GW	02/27/2018

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by



Date

3/2/2018

Sample Date: 2/26/2018 To: PM Environmental, Inc.
 Submit Date: 2/27/2018 4080 W. 11 Mile Rd.
 Report Date: 3/2/2018 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01091**

Project Number: **01-8464-0-0002**

Sample ID: **SB-2 9-10**

Analysis

Parameters	Result	Units	DL	Method Reference	Analyst	Date
------------	--------	-------	----	------------------	---------	------

PNA Analysis

Acenaphthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Acenaphthylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(b)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(g,h,i)perylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(k)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Chrysene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Dibenzo(a,h)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluorene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Indeno(1,2,3-cd)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
2-Methylnaphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Naphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Phenanthrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
PNA solid GC/MS (extraction)	Extracted			3510C/3545	MB	02/28/2018

Volatile Analysis(Methanol Preserved)

Acetone	<750	ug/Kg	750	SW846 8260C	RG	02/28/2018
Acrylonitrile	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
Benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromodichloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromoform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromomethane(Methyl bromide)	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
2-Butanone (MEK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Carbon disulfide	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Carbon tetrachloride	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloroethane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Chloroform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloromethane(Methyl chloride)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
cis-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
cis-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Sample Date: 2/26/2018
 Submit Date: 2/27/2018
 Report Date: 3/2/2018

To: PM Environmental, Inc.
 4080 W. 11 Mile Rd.
 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01091**

Project Number: **01-8464-0-0002**

Sample ID: **SB-2 9-10**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst
------------	--------	-------	----	------------------	---------

Volatile Analysis(Methanol Preserved)

Cyclohexane	<500	ug/Kg	500	SW846 8260C	RG	02/28/2018
Dibromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dibromo-3-Chloropropane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2-Dibromoethane(Ethylene dibromide)	<20	ug/Kg	20	SW846 8260C	RG	02/28/2018
Dibromomethane(Methylene bromide)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,4-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Dichlorodifluoromethane	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
1,1-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Diethyl ether	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
Diisopropyl Ether(DIPE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Ethanol (Ethyl alcohol)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
Ethyl benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Ethyltertiary butylether(ETBE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
2-Hexanone(Methyl Butyl Ketone)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Isopropylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methyl iodide(Iodomethane)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methylene chloride	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
2-Methylnaphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
4-Methyl-2-pentanone(MIBK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Methyl(tert)butyl ether(MTBE)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Naphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
n-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
n-Propylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
p-Isopropyl Toluene(p-Cymene)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
sec-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Styrene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
tertiary Amylmethylether(TAME)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Tertiary Butyl Alcohol(TBA)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
tertiary Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,2,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,1,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Tetrachloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Sample Date:	2/26/2018	To:	PM Environmental, Inc.
Submit Date:	2/27/2018		4080 W. 11 Mile Rd.
Report Date:	3/2/2018		Berkley, MI 48072

 BA Report Number: **49425**

 Project Name: **Vacant Land**

 BA Sample ID: **CH01091**

 Project Number: **01-8464-0-0002**

 Sample ID: **SB-2 9-10**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis(Methanol Preserved)						
Tetrahydrofuran(THF)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Toluene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,4-Dichloro-2-butene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2,4-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,1,1-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,2-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichlorofluoromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,4-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3,5-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Vinyl chloride	<40	ug/Kg	40	SW846 8260C	RG	02/28/2018
Xylenes	<150	ug/Kg	150	SW846 8260C	RG	02/28/2018
EPA Method 5035 Methanol Preserv	Extracted			EPA 5035	PME	02/26/2018
%Solid	92	%		ASTM D2216	GW	02/27/2018

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by _____



 Date 3/2/2018

Sample Date: 2/26/2018 To: PM Environmental, Inc.
 Submit Date: 2/27/2018 4080 W. 11 Mile Rd.
 Report Date: 3/2/2018 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01092**

Project Number: **01-8464-0-0002**

Sample ID: **SB-2 23-24**

Analysis

Parameters	Result	Units	DL	Method Reference	Analyst	Date
------------	--------	-------	----	------------------	---------	------

PNA Analysis

Acenaphthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Acenaphthylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(b)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(g,h,i)perylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(k)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Chrysene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Dibenzo(a,h)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluorene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Indeno(1,2,3-cd)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
2-Methylnaphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Naphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Phenanthrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
PNA solid GC/MS (extraction)	Extracted			3510C/3545	MB	02/28/2018

Volatile Analysis(Methanol Preserved)

Acetone	<750	ug/Kg	750	SW846 8260C	RG	02/28/2018
Acrylonitrile	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
Benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromodichloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromoform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromomethane(Methyl bromide)	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
2-Butanone (MEK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Carbon disulfide	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Carbon tetrachloride	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloroethane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Chloroform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloromethane(Methyl chloride)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
cis-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
cis-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Brighton Analytical LLC
 2105 Pless Drive
 Brighton, Michigan 48114
 Phone: (810)229-7575 (810)229-8650
 e-mail: bai-brighton@sbcglobal.net
 MDNRE Certified #9404
 NELAC Accredited #176507

Sample Date: 2/26/2018
 Submit Date: 2/27/2018
 Report Date: 3/2/2018

To: PM Environmental, Inc.
 4080 W. 11 Mile Rd.
 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01092**

Project Number: **01-8464-0-0002**

Sample ID: **SB-2 23-24**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis(Methanol Preserved)						
Cyclohexane	<500	ug/Kg	500	SW846 8260C	RG	02/28/2018
Dibromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dibromo-3-Chloropropane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2-Dibromoethane(Ethylene dibromide)	<20	ug/Kg	20	SW846 8260C	RG	02/28/2018
Dibromomethane(Methylene bromide)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,4-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Dichlorodifluoromethane	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
1,2-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Diethyl ether	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
Diisopropyl Ether(DIPE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Ethanol (Ethyl alcohol)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
Ethyl benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Ethyltertiary butylether(ETBE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
2-Hexanone(Methyl Butyl Ketone)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Isopropylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methyl iodide(Iodomethane)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methylene chloride	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
2-Methylnaphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
4-Methyl-2-pentanone(MIBK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Methyl(tert)butyl ether(MTBE)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Naphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
n-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
n-Propylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
p-Isopropyl Toluene(p-Cymene)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
sec-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Styrene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
tertiary Amylmethylether(TAME)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Tertiary Butyl Alcohol(TBA)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
tertiary Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,2,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,1,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Tetrachloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Sample Date:	2/26/2018	To:	PM Environmental, Inc.
Submit Date:	2/27/2018		4080 W. 11 Mile Rd.
Report Date:	3/2/2018		Berkley, MI 48072

 BA Report Number: **49425**

 Project Name: **Vacant Land**

 BA Sample ID: **CH01092**

 Project Number: **01-8464-0-0002**

 Sample ID: **SB-2 23-24**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis(Methanol Preserved)						
Tetrahydrofuran(THF)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Toluene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,4-Dichloro-2-butene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,4-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2,3-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,1,2-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,1-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichlorofluoromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,4-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3,5-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Vinyl chloride	<40	ug/Kg	40	SW846 8260C	RG	02/28/2018
Xylenes	<150	ug/Kg	150	SW846 8260C	RG	02/28/2018
EPA Method 5035 Methanol Preserv	Extracted			EPA 5035	PME	02/26/2018
%Solid	96	%		ASTM D2216	GW	02/27/2018

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by _____



 Date 3/2/2018

Sample Date: 2/26/2018 To: PM Environmental, Inc.
 Submit Date: 2/27/2018 4080 W. 11 Mile Rd.
 Report Date: 3/2/2018 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01093**

Project Number: **01-8464-0-0002**

Sample ID: **SB-3 13-14**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
------------	--------	-------	----	------------------	---------	---------------

PNA Analysis

Acenaphthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Acenaphthylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(b)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(g,h,i)perylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(k)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Chrysene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Dibenzo(a,h)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluorene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Indeno(1,2,3-cd)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
2-Methylnaphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Naphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Phenanthrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
PNA solid GC/MS (extraction)	Extracted			3510C/3545	MB	02/28/2018

Volatile Analysis(Methanol Preserved)

Acetone	<750	ug/Kg	750	SW846 8260C	RG	02/28/2018
Acrylonitrile	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
Benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromodichloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromoform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromomethane(Methyl bromide)	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
2-Butanone (MEK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Carbon disulfide	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Carbon tetrachloride	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloroethane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Chloroform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloromethane(Methyl chloride)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
cis-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
cis-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Sample Date: 2/26/2018
 Submit Date: 2/27/2018
 Report Date: 3/2/2018

To: PM Environmental, Inc.
 4080 W. 11 Mile Rd.
 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01093**

Project Number: **01-8464-0-0002**

Sample ID: **SB-3 13-14**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
------------	--------	-------	----	------------------	---------	---------------

Volatile Analysis(Methanol Preserved)

Cyclohexane	<500	ug/Kg	500	SW846 8260C	RG	02/28/2018
Dibromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dibromo-3-Chloropropane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2-Dibromoethane(Ethylene dibromide)	<20	ug/Kg	20	SW846 8260C	RG	02/28/2018
Dibromomethane(Methylene bromide)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,4-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Dichlorodifluoromethane	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
1,2-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Diethyl ether	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
Diisopropyl Ether(DIPE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Ethanol (Ethyl alcohol)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
Ethyl benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Ethyltertiary butylether(ETBE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
2-Hexanone(Methyl Butyl Ketone)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Isopropylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methyl iodide(Iodomethane)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methylene chloride	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
2-Methylnaphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
4-Methyl-2-pentanone(MIBK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Methyl(tert)butyl ether(MTBE)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Naphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
n-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
n-Propylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
p-Isopropyl Toluene(p-Cymene)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
sec-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Styrene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
tertiary Amylmethylether(TAME)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Tertiary Butyl Alcohol(TBA)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
tertiary Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,2,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,1,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Tetrachloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Brighton Analytical LLC
 2105 Pless Drive
 Brighton, Michigan 48114
 Phone: (810)229-7575 (810)229-8650
 e-mail: bai-brighton@sbcglobal.net
 MDNRE Certified #9404
 NELAC Accredited #176507

Sample Date:	2/26/2018	To:	PM Environmental, Inc.
Submit Date:	2/27/2018		4080 W. 11 Mile Rd.
Report Date:	3/2/2018		Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01093**

Project Number: **01-8464-0-0002**

Sample ID: **SB-3 13-14**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis(Methanol Preserved)						
Tetrahydrofuran(THF)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Toluene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,4-Dichloro-2-butene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,4-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2,3-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,1,2-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,1-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichlorofluoromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,4-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3,5-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Vinyl chloride	<40	ug/Kg	40	SW846 8260C	RG	02/28/2018
Xylenes	<150	ug/Kg	150	SW846 8260C	RG	02/28/2018
EPA Method 5035 Methanol Preserv	Extracted			EPA 5035	PME	02/26/2018
%Solid	89	%		ASTM D2216	GW	02/27/2018

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by



Date

3/2/2018

Sample Date: 2/26/2018 To: PM Environmental, Inc.
 Submit Date: 2/27/2018 4080 W. 11 Mile Rd.
 Report Date: 3/2/2018 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01094**

Project Number: **01-8464-0-0002**

Sample ID: **SB-4 5-6**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
PNA Analysis						
Acenaphthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Acenaphthylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(b)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(g,h,i)perylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(k)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Chrysene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Dibenzo(a,h)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluorene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Indeno(1,2,3-cd)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
2-Methylnaphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Naphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Phenanthrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
PNA solid GC/MS (extraction)	Extracted			3510C/3545	MB	02/28/2018
Volatile Analysis(Methanol Preserved)						
Acetone	<750	ug/Kg	750	SW846 8260C	RG	02/28/2018
Acrylonitrile	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
Benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromodichloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromoform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromomethane(Methyl bromide)	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
2-Butanone (MEK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Carbon disulfide	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Carbon tetrachloride	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloroethane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Chloroform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloromethane(Methyl chloride)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
cis-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
cis-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Sample Date: 2/26/2018
 Submit Date: 2/27/2018
 Report Date: 3/2/2018

To: PM Environmental, Inc.
 4080 W. 11 Mile Rd.
 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01094**

Project Number: **01-8464-0-0002**

Sample ID: **SB-4 5-6**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis(Methanol Preserved)						
Cyclohexane	<500	ug/Kg	500	SW846 8260C	RG	02/28/2018
Dibromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dibromo-3-Chloropropane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2-Dibromoethane(Ethylene dibromide)	<20	ug/Kg	20	SW846 8260C	RG	02/28/2018
Dibromomethane(Methylene bromide)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,4-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Dichlorodifluoromethane	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
1,1-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Diethyl ether	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
Diisopropyl Ether(DIPE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Ethanol (Ethyl alcohol)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
Ethyl benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Ethyltertiary butylether(ETBE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
2-Hexanone(Methyl Butyl Ketone)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Isopropylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methyl iodide(Iodomethane)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methylene chloride	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
2-Methylnaphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
4-Methyl-2-pentanone(MIBK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Methyl(tert)butyl ether(MTBE)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Naphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
n-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
n-Propylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
p-Isopropyl Toluene(p-Cymene)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
sec-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Styrene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
tertiary Amylmethylether(TAME)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Tertiary Butyl Alcohol(TBA)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
tertiary Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,1,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,2,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Tetrachloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Brighton Analytical LLC
 2105 Pless Drive
 Brighton, Michigan 48114
 Phone: (810)229-7575 (810)229-8650
 e-mail: bai-brighton@sbcglobal.net
 MDNRE Certified #9404
 NELAC Accredited #176507

Sample Date: 2/26/2018 To: PM Environmental, Inc.
 Submit Date: 2/27/2018 4080 W. 11 Mile Rd.
 Report Date: 3/2/2018 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01094**

Project Number: **01-8464-0-0002**

Sample ID: **SB-4 5-6**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis(Methanol Preserved)						
Tetrahydrofuran(THF)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Toluene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,4-Dichloro-2-butene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2,4-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,1,1-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,2-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichlorofluoromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3,5-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,4-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Vinyl chloride	<40	ug/Kg	40	SW846 8260C	RG	02/28/2018
Xylenes	<150	ug/Kg	150	SW846 8260C	RG	02/28/2018
EPA Method 5035 Methanol Preserv	Extracted			EPA 5035	PME	02/26/2018
%Solid	94	%		ASTM D2216	GW	02/27/2018

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by



Date

3/2/2018

Sample Date: 2/26/2018 To: PM Environmental, Inc.
 Submit Date: 2/27/2018 4080 W. 11 Mile Rd.
 Report Date: 3/2/2018 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01095**

Project Number: **01-8464-0-0002**

Sample ID: **SB-4 18-19**

Analysis

Parameters	Result	Units	DL	Method Reference	Analyst	Date
------------	--------	-------	----	------------------	---------	------

PNA Analysis

Acenaphthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Acenaphthylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(a)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(b)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(g,h,i)perylene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Benzo(k)fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Chrysene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Dibenzo(a,h)anthracene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluoranthene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Fluorene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Indeno(1,2,3-cd)pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
2-Methylnaphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Naphthalene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Phenanthrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
Pyrene	<330	ug/Kg	330	SW846 8270D	RG	03/01/2018
PNA solid GC/MS (extraction)	Extracted			3510C/3545	MB	02/28/2018

Volatile Analysis(Methanol Preserved)

Acetone	<750	ug/Kg	750	SW846 8260C	RG	02/28/2018
Acrylonitrile	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
Benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromodichloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromoform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Bromomethane(Methyl bromide)	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
2-Butanone (MEK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Carbon disulfide	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Carbon tetrachloride	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloroethane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Chloroform	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Chloromethane(Methyl chloride)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
cis-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
cis-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Sample Date: 2/26/2018
 Submit Date: 2/27/2018
 Report Date: 3/2/2018

To: PM Environmental, Inc.
 4080 W. 11 Mile Rd.
 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01095**

Project Number: **01-8464-0-0002**

Sample ID: **SB-4 18-19**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
------------	--------	-------	----	------------------	---------	---------------

Volatile Analysis(Methanol Preserved)

Cyclohexane	<500	ug/Kg	500	SW846 8260C	RG	02/28/2018
Dibromochloromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dibromo-3-Chloropropane	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2-Dibromoethane(Ethylene dibromide)	<20	ug/Kg	20	SW846 8260C	RG	02/28/2018
Dibromomethane(Methylene bromide)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,4-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichlorobenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Dichlorodifluoromethane	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
1,1-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2-Dichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Diethyl ether	<200	ug/Kg	200	SW846 8260C	RG	02/28/2018
Diisopropyl Ether(DIPE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Ethanol (Ethyl alcohol)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
Ethyl benzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Ethyltertiary butylether(ETBE)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
2-Hexanone(Methyl Butyl Ketone)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Isopropylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methyl iodide(Iodomethane)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Methylene chloride	<100	ug/Kg	100	SW846 8260C	RG	02/28/2018
2-Methylnaphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
4-Methyl-2-pentanone(MIBK)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Methyl(tert)butyl ether(MTBE)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Naphthalene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
n-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
n-Propylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
p-Isopropyl Toluene(p-Cymene)	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
sec-Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Styrene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
tertiary Amylmethylether(TAME)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Tertiary Butyl Alcohol(TBA)	<2500	ug/Kg	2500	SW846 8260C	RG	02/28/2018
tertiary Butylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,2,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,1,2-Tetrachloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Tetrachloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018

Sample Date:	2/26/2018	To:	PM Environmental, Inc.
Submit Date:	2/27/2018		4080 W. 11 Mile Rd.
Report Date:	3/2/2018		Berkley, MI 48072

 BA Report Number: **49425**

 Project Name: **Vacant Land**

 BA Sample ID: **CH01095**

 Project Number: **01-8464-0-0002**

 Sample ID: **SB-4 18-19**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst
------------	--------	-------	----	------------------	---------

Volatile Analysis(Methanol Preserved)

Tetrahydrofuran(THF)	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
Toluene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,4-Dichloro-2-butene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,2-Dichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
trans-1,3-Dichloropropene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,4-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,2,3-Trichlorobenzene	<250	ug/Kg	250	SW846 8260C	RG	02/28/2018
1,1,2-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,1,1-Trichloroethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichloroethene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Trichlorofluoromethane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trichloropropane	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,3-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,2,4-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
1,3,5-Trimethylbenzene	<50	ug/Kg	50	SW846 8260C	RG	02/28/2018
Vinyl chloride	<40	ug/Kg	40	SW846 8260C	RG	02/28/2018
Xylenes	<150	ug/Kg	150	SW846 8260C	RG	02/28/2018
EPA Method 5035 Methanol Preserv	Extracted			EPA 5035	PME	02/26/2018
%Solid	91	%		ASTM D2216	GW	02/27/2018

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by _____



 Date 3/2/2018

Sample Date: 2/26/2018 To: PM Environmental, Inc.
 Submit Date: 2/27/2018 4080 W. 11 Mile Rd.
 Report Date: 3/2/2018 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01096**

Project Number: **01-8464-0-0002**

Sample ID: **TMW-3**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
------------	--------	-------	----	------------------	---------	---------------

PNA Analysis

Acenaphthene	<5	ug/L	5	EPA 625	RG	03/01/2018
Acenaphthylene	<5	ug/L	5	EPA 625	RG	03/01/2018
Anthracene	<5	ug/L	5	EPA 625	RG	03/01/2018
Benzo(a)anthracene	<1	ug/L	1	EPA 625	RG	03/01/2018
Benzo(a)pyrene	<0.2	ug/L	0.2	EPA 625	RG	03/01/2018
Benzo(b)fluoranthene	<1	ug/L	1	EPA 625	RG	03/01/2018
Benzo(g,h,i)perylene	<1	ug/L	1	EPA 625	RG	03/01/2018
Benzo(k)fluoranthene	<1	ug/L	1	EPA 625	RG	03/01/2018
Chrysene	<1	ug/L	1	EPA 625	RG	03/01/2018
Dibenzo(a,h)anthracene	<2	ug/L	2	EPA 625	RG	03/01/2018
Fluoranthene	<1	ug/L	1	EPA 625	RG	03/01/2018
Fluorene	<5	ug/L	5	EPA 625	RG	03/01/2018
Indeno(1,2,3-cd)pyrene	<2	ug/L	2	EPA 625	RG	03/01/2018
2-Methylnaphthalene	<5	ug/L	5	EPA 625	RG	03/01/2018
Naphthalene	<5	ug/L	5	EPA 625	RG	03/01/2018
Phenanthrene	<2	ug/L	2	EPA 625	RG	03/01/2018
Pyrene	<5	ug/L	5	EPA 625	RG	03/01/2018
PNA liquid GC/MS (extraction)	Extracted			3510C/3545	MB	02/28/2018

Volatile Analysis

Acetone	<20	ug/L	20	SW846 8260C	CW	02/28/2018
Acrylonitrile	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Benzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Bromobenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Bromochloromethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Bromodichloromethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Bromoform	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Bromomethane(Methyl Bromide)	<1	ug/L	1	SW846 8260C	CW	02/28/2018
2-Butanone (MEK)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
Carbon disulfide	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Carbon tetrachloride	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Chlorobenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Chloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Chloroform	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Chloromethane(Methyl Chloride)	<1	ug/L	1	SW846 8260C	CW	02/28/2018
cis-1,2-Dichloroethene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
cis-1,3-Dichloropropene	<1	ug/L	1	SW846 8260C	CW	02/28/2018

Sample Date: 2/26/2018
 Submit Date: 2/27/2018
 Report Date: 3/2/2018

To: PM Environmental, Inc.
 4080 W. 11 Mile Rd.
 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01096**

Project Number: **01-8464-0-0002**

Sample ID: **TMW-3**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
------------	--------	-------	----	------------------	---------	---------------

Volatile Analysis

Cyclohexane	<10	ug/L	10	SW846 8260C	CW	02/28/2018
Dibromochloromethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2-Dibromo-3-Chloropropane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2-Dibromoethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Dibromomethane(Methylene Bromide)	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,3-Dichlorobenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2-Dichlorobenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,4-Dichlorobenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Dichlorodifluoromethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2-Dichloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,1-Dichloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,1-Dichloroethene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2-Dichloropropane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Diethyl ether	<5	ug/L	5	SW846 8260C	CW	02/28/2018
Diisopropyl Ether(DIPE)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
Ethanol (Ethyl alcohol)	<1000	ug/L	1000	SW846 8260C	CW	02/28/2018
Ethyl benzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Ethyltertiarybutylether(ETBE)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
2-Hexanone(Methyl Butyl Ketone)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
Isopropylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Methyl iodide(Iodomethane)	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Methylene chloride	<5	ug/L	5	SW846 8260C	CW	02/28/2018
2-Methylnaphthalene	<5	ug/L	5	SW846 8260C	CW	02/28/2018
4-Methyl-2-pentanone(MIBK)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
Methyl(tert)butyl ether(MTBE)	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Naphthalene	<5	ug/L	5	SW846 8260C	CW	02/28/2018
n-Butylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
n-Propylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
p-Isopropyl Toluene(p-Cymene)	<1	ug/L	1	SW846 8260C	CW	02/28/2018
sec-Butylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Styrene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Tertiary Butyl Alcohol(TBA)	<50	ug/L	50	SW846 8260C	CW	02/28/2018
tertiaryAmylmethylether(TAME)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
tertiaryButylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,1,2,2-Tetrachloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,1,1,2-Tetrachloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Tetrachloroethene	<1	ug/L	1	SW846 8260C	CW	02/28/2018

Brighton Analytical LLC
 2105 Pless Drive
 Brighton, Michigan 48114
 Phone: (810)229-7575 (810)229-8650
 e-mail: bai-brighton@sbcglobal.net
 MDNRE Certified #9404
 NELAC Accredited #176507

Sample Date: 2/26/2018 To: PM Environmental, Inc.
 Submit Date: 2/27/2018 4080 W. 11 Mile Rd.
 Report Date: 3/2/2018 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01096**

Project Number: **01-8464-0-0002**

Sample ID: **TMW-3**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
------------	--------	-------	----	------------------	---------	---------------

Volatile Analysis

Tetrahydrofuran(THF)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
Toluene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
trans-1,4-Dichloro-2-butene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
trans-1,2-Dichloroethene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
trans-1,3-Dichloropropene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2,4-Trichlorobenzene	<5	ug/L	5	SW846 8260C	CW	02/28/2018
1,2,3-Trichlorobenzene	<5	ug/L	5	SW846 8260C	CW	02/28/2018
1,1,1-Trichloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,1,2-Trichloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Trichloroethene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Trichlorofluoromethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2,3-Trichloropropane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,3,5-Trimethylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2,4-Trimethylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2,3-Trimethylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Vinyl chloride	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Xylenes(total)	<3	ug/L	3	SW846 8260C	CW	02/28/2018

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by



Date 3/2/2018

Sample Date: 2/26/2018 To: PM Environmental, Inc.
 Submit Date: 2/27/2018 4080 W. 11 Mile Rd.
 Report Date: 3/2/2018 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01097**

Project Number: **01-8464-0-0002**

Sample ID: **TMW-4**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
PNA Analysis						
Acenaphthene	<5	ug/L	5	EPA 625	RG	03/01/2018
Acenaphthylene	<5	ug/L	5	EPA 625	RG	03/01/2018
Anthracene	<5	ug/L	5	EPA 625	RG	03/01/2018
Benzo(a)anthracene	<1	ug/L	1	EPA 625	RG	03/01/2018
Benzo(a)pyrene	<0.2	ug/L	0.2	EPA 625	RG	03/01/2018
Benzo(b)fluoranthene	<1	ug/L	1	EPA 625	RG	03/01/2018
Benzo(g,h,i)perylene	<1	ug/L	1	EPA 625	RG	03/01/2018
Benzo(k)fluoranthene	<1	ug/L	1	EPA 625	RG	03/01/2018
Chrysene	<1	ug/L	1	EPA 625	RG	03/01/2018
Dibenzo(a,h)anthracene	<2	ug/L	2	EPA 625	RG	03/01/2018
Fluoranthene	<1	ug/L	1	EPA 625	RG	03/01/2018
Fluorene	<5	ug/L	5	EPA 625	RG	03/01/2018
Indeno(1,2,3-cd)pyrene	<2	ug/L	2	EPA 625	RG	03/01/2018
2-Methylnaphthalene	<5	ug/L	5	EPA 625	RG	03/01/2018
Naphthalene	<5	ug/L	5	EPA 625	RG	03/01/2018
Phenanthrene	<2	ug/L	2	EPA 625	RG	03/01/2018
Pyrene	<5	ug/L	5	EPA 625	RG	03/01/2018
PNA liquid GC/MS (extraction)	Extracted			3510C/3545	MB	02/28/2018
Volatile Analysis						
Acetone	<20	ug/L	20	SW846 8260C	CW	02/28/2018
Acrylonitrile	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Benzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Bromobenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Bromochloromethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Bromodichloromethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Bromoform	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Bromomethane(Methyl Bromide)	<1	ug/L	1	SW846 8260C	CW	02/28/2018
2-Butanone (MEK)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
Carbon disulfide	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Carbon tetrachloride	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Chlorobenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Chloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Chloroform	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Chloromethane(Methyl Chloride)	<1	ug/L	1	SW846 8260C	CW	02/28/2018
cis-1,2-Dichloroethene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
cis-1,3-Dichloropropene	<1	ug/L	1	SW846 8260C	CW	02/28/2018

Sample Date: 2/26/2018
 Submit Date: 2/27/2018
 Report Date: 3/2/2018

To: PM Environmental, Inc.
 4080 W. 11 Mile Rd.
 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01097**

Project Number: **01-8464-0-0002**

Sample ID: **TMW-4**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
------------	--------	-------	----	------------------	---------	---------------

Volatile Analysis

Cyclohexane	<10	ug/L	10	SW846 8260C	CW	02/28/2018
Dibromochloromethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2-Dibromo-3-Chloropropane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2-Dibromoethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Dibromomethane(Methylene Bromide)	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,4-Dichlorobenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,3-Dichlorobenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2-Dichlorobenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Dichlorodifluoromethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,1-Dichloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2-Dichloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,1-Dichloroethene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2-Dichloropropane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Diethyl ether	<5	ug/L	5	SW846 8260C	CW	02/28/2018
Diisopropyl Ether(DIPE)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
Ethanol (Ethyl alcohol)	<1000	ug/L	1000	SW846 8260C	CW	02/28/2018
Ethyl benzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Ethyltertiarybutylether(ETBE)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
2-Hexanone(Methyl Butyl Ketone)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
Isopropylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Methyl iodide(Iodomethane)	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Methylene chloride	<5	ug/L	5	SW846 8260C	CW	02/28/2018
2-Methylnaphthalene	<5	ug/L	5	SW846 8260C	CW	02/28/2018
4-Methyl-2-pentanone(MIBK)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
Methyl(tert)butyl ether(MTBE)	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Naphthalene	<5	ug/L	5	SW846 8260C	CW	02/28/2018
n-Butylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
n-Propylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
p-Isopropyl Toluene(p-Cymene)	<1	ug/L	1	SW846 8260C	CW	02/28/2018
sec-Butylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Styrene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Tertiary Butyl Alcohol(TBA)	<50	ug/L	50	SW846 8260C	CW	02/28/2018
tertiaryAmylmethylether(TAME)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
tertiaryButylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,1,2,2-Tetrachloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,1,1,2-Tetrachloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Tetrachloroethene	<1	ug/L	1	SW846 8260C	CW	02/28/2018

Brighton Analytical LLC
 2105 Pless Drive
 Brighton, Michigan 48114
 Phone: (810)229-7575 (810)229-8650
 e-mail: bai-brighton@sbcglobal.net
 MDNRE Certified #9404
 NELAC Accredited #176507

Sample Date: 2/26/2018 To: PM Environmental, Inc.
 Submit Date: 2/27/2018 4080 W. 11 Mile Rd.
 Report Date: 3/2/2018 Berkley, MI 48072

BA Report Number: **49425**

Project Name: **Vacant Land**

BA Sample ID: **CH01097**

Project Number: **01-8464-0-0002**

Sample ID: **TMW-4**

Analysis

Date

Parameters	Result	Units	DL	Method Reference	Analyst	Analysis Date
------------	--------	-------	----	------------------	---------	---------------

Volatile Analysis

Tetrahydrofuran(THF)	<5	ug/L	5	SW846 8260C	CW	02/28/2018
Toluene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
trans-1,4-Dichloro-2-butene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
trans-1,2-Dichloroethene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
trans-1,3-Dichloropropene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2,3-Trichlorobenzene	<5	ug/L	5	SW846 8260C	CW	02/28/2018
1,2,4-Trichlorobenzene	<5	ug/L	5	SW846 8260C	CW	02/28/2018
1,1,2-Trichloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,1,1-Trichloroethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Trichloroethene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Trichlorofluoromethane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2,3-Trichloropropane	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2,4-Trimethylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
1,2,3-Trimethylbenzene	2	ug/L	1	SW846 8260C	CW	02/28/2018
1,3,5-Trimethylbenzene	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Vinyl chloride	<1	ug/L	1	SW846 8260C	CW	02/28/2018
Xylenes(total)	<3	ug/L	3	SW846 8260C	CW	02/28/2018

DL=Reported detection limit for analytical method requested. Some compounds require special analytical methods to achieve MDNR designated target detection limits (TDL).

Released by



Date 3/2/2018

BA

Brighton Analytical, L.L.C.
Email: hai-brighton@sheglobal.net
2105 Pless Drive
Brighton, MI 48114

BA PROJECT #:
49425

ABBREVIATIONS
FOR MATRIX

S = Solid

L = Liquid

DW = Drinking H₂O

O = Oil

P = Wipe

A = Air (Teflon Bag)

F = Filter

T = Tube

M = Misc.

PROJECT NAME: **Vacant Land**
PROJECT #: **01-8964-0-0002**
PO #: (PLEASE NOTE IF DIFFERENT BILLING ADDRESS)

Sample collected by: **Brett Flesner**

Container Type & Quantity

Brighton ID #	Sample Description	Date	Time	VOA's (PRESERVE N/N/A)				HDPE UNPRESERVED				HDPE HNO ₃				HDPE H ₂ SO ₄				HDPE NaOH				HDPE NaOCl				AMBER PRESERVED?				GLASS, NO PRESERVATIVE				STERILIZED BACTERIA				MIOH PRESERVED?			
1) 401089	SB-1 2-3	2/26	12:40																																								
2) 90	SB-1 15-16	1293																																									
3) 91	SB-2 1-10	105																																									
4) 92	SB-2 23-24	1210																																									
5) 93	SB-3 13-14	1195																																									
6) 94	SB-4 5-6	1015																																									
7) 95	SB-4 18-19	1020																																									
8) 96	TmU-3	1030	3																																								
9) 97	TmU-4	1040	3																																								
10)																																											

Special Instructions:

Please fill out the Chain of Custody completely and review. Incorrect or incomplete information will result in a "hold" on all analyses.

Trans. #	RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:	#	TRANS.	RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:
1	Brett Flesner	PM Storage	2/26	1600	3	ECC	PM	ECC	1/27/12	10:35
2	Storage	Metanair	2/27/12	12:45	4	EPA 3035	Metanair	EPA 3035	1/27/12	11:35

Temperature of samples °C: 4	ATN: Aaron Snow	PHONE: 242-9191-1424	FAX OR EMAIL: Snow@Metanair.com
Samples received within hold time? yes <input checked="" type="checkbox"/> no <input type="checkbox"/>	pHs verified in login? yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	Headspace/bubbles in VOA's? yes <input type="checkbox"/> no <input checked="" type="checkbox"/> n/a <input type="checkbox"/>	Sample containers and COC match? yes <input checked="" type="checkbox"/> no <input type="checkbox"/>

P-NAS
VOCs



BRIGHTON ANALYTICAL, LLC

**QUALITY ASSURANCE/QUALITY
CONTROL**

GC/MS

VOLATILE METHOD 8260/624

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date:	February 28, 2017	Spike Std. ID:	2961.3	Inst./Detec:	HP7890/5975 Vol6
Laboratory ID:	CH01136	Matrix:	Water	Analyst:	CW

	Matrix Spike - Precision			Matrix spike - Accuracy					LCS +/- 20%	Method Blank	
	Spike 1 ug/L	Spike 1 ug/L	Relative Percent Difference +/- 20%	Spk Conc ug/L	% Recovery	% Recovery	Range (%)	Sample background ug/L			
d4-1,2-Dichloroethane	47.5	47.9	0.9	50	95	96	70-130	98%	95%	97%	
d8-Toluene	49.0	48.6	0.8	50	98	97	70-130	98%	97%	99%	
4-Bromofluorobenzene	48.3	48.7	0.8	50	97	97	70-130	107%	96%	107%	
COMPOUNDS											
1,1- Dichloroethene	47.6	47.7	0.1	50	95%	95%	70-130	<1	95%	<1	
1,1- Dichloroethane	44.6	45.1	1.0	50	89%	90%	70-130	<1	97%	<1	
Chloroform	43.8	44.4	1.5	50	88%	89%	70-130	<1	93%	<1	
1,2- Dichloroethane	46.2	46.2	0.1	50	92%	92%	70-130	<1	95%	<1	
Carbon tetrachloride	45.9	43.4	5.5	50	92%	87%	70-130	<1	93%	<1	
1,2- Dichloropropane	49.1	47.2	4.0	50	98%	94%	70-130	<1	98%	<1	
cis- 1,3 -dichloropropene	42.0	42.0	0.0	50	84%	84%	70-130	<1	96%	<1	
Trichloroethene	49.1	48.7	0.9	50	98%	97%	70-130	<1	98%	<1	
Dibromochloromethane	44.9	45.0	0.2	50	90%	90%	70-130	<1	95%	<1	
1,1,2- Trichloroethane	45.3	46.9	3.4	50	91%	94%	70-130	<1	98%	<1	
Tetrachloroethane	34.9	35.2	1.0	50	70%	70%	70-130	<1	99%	<1	
1,1,2,2 -Tetrachloroethane	42.6	42.5	0.3	50	85%	85%	70-130	<1	90%	<1	
Chlorobenzene	44.0	44.7	1.6	50	88%	89%	70-130	<1	90%	<1	
1,3- Dichlorobenzene	44.8	45.8	2.1	50	90%	92%	70-130	<1	96%	<1	
1,4- Dichlorobenzene	42.5	43.0	1.1	50	85%	86%	70-130	<1	92%	<1	
1,2-Dichlorobenzene	42.6	43.5	2.1	50	85%	87%	70-130	<1	89%	<1	

ug/L is equivalent to ppb

Comments: _____

GC/MS

VOLATILE METHOD 8260/624

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date: February 28, 2018 Spike Std. ID: 2961.3 Inst./Dete: HP7890/5975 Vol6
 Laboratory ID: CH01083 Matrix: soil Analyst: RG

	Matrix Spike - Precision			Matrix spike - Accuracy					LCS +/- 20%	Method Blank	
	Spike 1 ug/L	Spike 1 ug/L	Relative Percent Difference +/- 20%	Spk Conc ug/L	% Recovery	% Recovery	Range (%)	Sample background ug/L			
d4-1,2-Dichloroethane	47.6	46.9	1.5	50	95	94	70-130	94%	97%	97%	
d8-Toluene	47.6	48.1	1.0	50	95	96	70-130	99%	97%	99%	
4-Bromofluorobenzene	48.1	47.6	1.0	50	96	95	70-130	103%	96%	106%	
COMPOUNDS											
1,1- Dichloroethene	45.5	46.3	1.7	50	91%	93%	70-130	<1	96%	<1	
1,1- Dichloroethane	43.0	43.4	0.9	50	86%	87%	70-130	<1	98%	<1	
Chloroform	43.0	42.8	0.5	50	86%	86%	70-130	<1	98%	<1	
1,2- Dichloroethane	44.2	45.4	2.7	50	88%	91%	70-130	<1	95%	<1	
Carbon tetrachloride	40.6	37.5	7.9	50	81%	75%	70-130	<1	84%	<1	
1,2- Dichloropropane	43.5	48.3	10.5	50	87%	97%	70-130	<1	101%	<1	
cis- 1,3 -dichloropropene	39.8	38.4	3.6	50	80%	77%	70-130	<1	92%	<1	
Trichloroethene	48.1	47.1	2.1	50	96%	94%	70-130	<1	99%	<1	
Dibromochloromethane	42.2	41.2	2.4	50	84%	82%	70-130	<1	95%	<1	
1,1,2- Trichloroethane	44.7	43.4	3.0	50	89%	87%	70-130	<1	99%	<1	
Tetrachloroethane	34.2	33.1	3.3	50	68%*	66%*	70-130	<1	106%	<1	
1,1,2,2 -Tetrachloroethane	40.5	39.4	2.8	50	81%	79%	70-130	<1	90%	<1	
Chlorobenzene	43.1	41.7	3.3	50	86%	83%	70-130	<1	90%	<1	
1,3- Dichlorobenzene	44.8	43.5	2.9	50	90%	87%	70-130	<1	93%	<1	
1,4- Dichlorobenzene	42.0	42.7	1.7	50	84%	85%	70-130	<1	88%	<1	
1,2-Dichlorobenzene	42.3	41.8	1.2	50	85%	84%	70-130	<1	88%	<1	

ug/L is equivalent to ppb

Comments: *Out of range due to sample matrix.

GC/MS

SEMI-VOLATILE METHOD 8270/625

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date: 3/1/2018 Std ID: #2775/#2777 Inst./Detec: HP5973/GC-MS

Laboratory ID#: MSTD Matrix: WATER Analyst: RG Ext.date:03/01/2018

SURROGATES	Matrix Spike-Precision*			Matrix Spike-Accuracy				LCS-%recovery	
	Spike 1	Spike 2	RPD	Spike Conc. ug/L	Recovery(%)	Range (%)	Sample(%) surr.recov.	LCS-MStd	Method Blank
2-Fluorophenol	61	63	3.2	100	62	23-131	72	61	72
D5-Phenol	53	59	10.7	100	56	14-140	54	53	54
D5-Nitrobenzene	91	90	1.1	100	91	30-151	83	91	83
2-Fluorobiphenyl	93	102	9.2	100	98	35-156	92	93	92
2,4,6-Tribromophenol	77	95	20.9	100	86	32-156	84	71	84
D14-Terphenyl	125	130	3.9	100	128	28-175	107	125	107
COMPOUNDS									
Phenol	61	65	6.3	100	63	14-139	ND	61	<5
2-Chlorophenol	85	94	10.1	100	90	39-147	ND	85	<5
1,4-Dichlorobenzene	85	93	9.0	100	89	35-132	ND	85	<5
2-Methylphenol	71	86	19.1	100	79	29-141	ND	71	<5
N-nitrosodipropylamine	90	110	20.0	100	100	42-161	ND	90	<5
1,2,4-Trichlorobenzene	88	96	8.7	100	92	40-140	ND	88	<5
4-Chloro-3-methylphenol	77	91	16.7	100	84	39-174	ND	77	<5
2-Methylnaphthalene	86	105	19.9	100	96	42-152	ND	86	<5
2,4,5-Trichlorophenol	69	82	17.2	100	76	41-171	ND	69	<5
Acenaphthene	103	112	8.4	100	108	46-162	ND	103	<5
3-Nitroaniline	67	73	8.6	100	70	51-169	ND	67	<5
Dibenzofuran	100	108	7.7	100	104	45-160	ND	100	<5
2,4- Dinitrotoluene	71	82	14.4	100	77	45-159	ND	71	<5
4 - Nitrophenol	21	20	4.9	100	21	13-134	ND	21	<5
Pentachlorophenol	51	56	9.3	100	54	5-195	ND	51	<5
Di-n-butylphthalate	99	120	19.2	100	110	31-192	ND	99	<5
Pyrene	119	130	8.8	100	125	36-178	ND	119	<5

* Matrix Spike Precision +/-20 RPD

Comments: _____

GC/MS
SEMI-VOLATILE METHOD (PNA) 8270

REPRESENTATIVE BATCH PRECISION AND ACCURACY QUALITY CONTROL SUMMARY

Analysis Date:	3/1/2018	Std ID:	#2775/#2776	Inst./Dete:	HP5973/GC-MS
Laboratory ID#:	CH01081	Matrix:	SOIL	Ext. Date:	02/28/18 MB
					Analyst: RG

SURROGATES	Matrix Spike-Precision*			Matrix Spike - Accuracy				LCS-%recovery	
	Spike 1	Spike 2	RPD	Spk Conc ug/L	% Recovery	Range (%)	Sample surr.recov.	LCS-MStd	Method Blank
Nitrobenzene-d5	80	79	1.3	100	80	46-108	85	69	86
2-Fluorobiphenyl	83	80	3.7	100	82	56-104	82	70	85
Terphenyl-d14	88	87	1.1	100	88	40-129	92	75	95
COMPOUNDS								Background	
Naphthalene	55.6	55.0	1.1	50	111	45-165	ND	90	<330
Acenaphthylene	62.2	61.4	1.3	50	124	45-182	ND	94	<330
Acenaphthene	57.4	57.0	0.7	50	114	59-164	ND	92	<330
Fluorene	57.3	59.1	3.1	50	116	61-166	ND	89	<330
Phenanthrene	59.6	59.3	0.5	50	119	57-171	ND	92	<330
Anthracene	55.9	56.5	1.1	50	112	65-152	ND	83	<330
Fluoranthene	59.5	60.1	1.0	50	120	72-169	ND	94	<330
Pyrene	58.7	57.9	1.4	50	117	39-198	ND	90	<330
Benzo[a]anthracene	51.5	50.7	1.6	50	102	58-162	ND	77	<330
Chrysene	53.8	53.4	0.7	50	107	45-139	ND	83	<330
Benzo[b]fluoranthene	58.1	56.4	3.0	50	115	50-165	ND	85	<330
Benzo[k]fluoranthene	57.8	58.2	0.7	50	116	66-159	ND	90	<330
Benzo[a]pyrene	57.8	57.1	1.2	50	115	56-162	ND	87	<330
Indeno[1,2,3-cd]pyrene	59.8	57.6	3.7	50	117	48-149	ND	90	<330
Dibenzo (a,h) anthracene	52.0	50.2	3.5	50	102	41-129	ND	79	<330
Benzo[g,h,i]perylene	57.6	56.9	1.2	50	115	60-164	ND	89	<330

* Matrix Spike Precision +/-20 Relative Percent Difference.

Comments:
